



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,514	05/15/2001	Kiyoki Sekine	2001_0575	8430
7590 11/30/2004				
WENDEROTH, LIND & PONACK, L.L.P. Suite 800 2033 "K" Street N.W. Washington, DC 20006-1021			EXAMINER DUONG, FRANK	
			ART UNIT 2666	PAPER NUMBER

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,514

Applicant(s)

SEKINE ET AL.

Examiner

Frank Duong

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 08/956,125.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/5/02, 11/30&5/15
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is a response to communications dated 05/15/01. Claims 1-3 are pending in the application.

Priority

2. Applicant is reminded that in order for a patent issuing on the instant application to obtain the benefit of priority based on priority papers filed in parent Application No. 08 under 35 U.S.C. 119(a)-(d) or (f), a claim for such foreign priority must be timely made in this application. To satisfy the requirement of 37 CFR 1.55(a)(2) for a certified copy of the foreign application, applicant may simply identify the application containing the certified copy.

Information Disclosure Statement

3. The information disclosure statements filed 03.05/02, 11/30/01 and 05/15/01 comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. They have been considered and placed in the application file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teder et al (WO 94/30024) (hereinafter Teder).

Regarding **claim 1**, the claim calls for a mobile station for interchanging communication data via a communication channel with a base station controlling a service area in which said mobile station is located; said mobile station comprising: a phase difference detecting circuit for detecting a difference between a transmission phase of a frame synchronizing signal received from a first base station currently holding a communication channel with said mobile station and a transmission phase of a frame synchronizing signal received from a second base station expected to newly set up a communication channel with said mobile station; and a phase difference reporting circuit for reporting said difference to said first base station as phase difference information.

In according with Teder reference entirety, Teder shows a mobile station in Fig. 6 comprising a receiver, demodulators 61A and 61B, CCH1 and CCH2 receivers, Delay Measurement Unit 63 and CCH Control Channel 64 in communication with base stations BS1 and BS2 (Fig. 2) corresponding to the claimed environment. On pages 12-13, Teder further discloses in order to synchronize the signals of the specific connection in a macro-diversity situation, the MS mobile station measures the difference in time between the reception of a control channel from the surrounding base stations and a reference base station. The time difference is report to the Radio Network controller (RNC) in an ordinary measurement report. On page 20, Teder specifically discloses the delay measurement unit 63 and the CCH control channel 64

Art Unit: 2666

perform the measurement and reporting, respectively. In Teder, the time difference is measured and reported, not phase difference as claimed. However, such difference between Teder and the claimed invention is very minimal and deemed to be an obvious variant because of known relationship between phase and time in a waveform signal is $f=1/T$.

Thus, it would have been obvious to those skilled in the art at the time of the invention was made and having Teder reference readily available to modify Teder's time difference detecting circuit (*Delay Measurement Unit 63*) into phase measurement unit using the relationship $f=1/T$ or to replace Teder's time Delay Measurement Unit 63 with a phase difference measurement unit known in the art to arrive the claimed invention with a motivation to achieves synchronization of base stations to provide reliable handover decision.

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above, Teder further discloses demodulating circuit for combining and demodulating a signal received from said first base station and a signal received from said second base station (*Fig. 6; (60 and 61A-62A) and (60 and 61B-62B)*)).

Regarding **claim 3**, in addition to features recited in base claim 1 (see rationales discussed above, Teder further discloses a receipt condition measuring circuit for measuring receipt conditions of a signal received from each of a plurality of base stations including a base station currently holding a communication channel; and a receipt condition reporting circuit for reporting said receipt conditions to said base station currently holding a communication channel with said mobile station as receipt

Art Unit: 2666

condition information (not shown; inherent because on page 18, last paragraph continues to page 19, first paragraph, Teder discloses together with pilot strength measurements of transmitting and neighboring base stations (receipt conditions), a control channel offset T_m relative the control channel CCH of the reference station shall be reported).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Umeda et al (USP 5,673,260).

Hirata (USP 5,920,557).

Hottinen et al (USP 5,862,124).

Muszynski (USP 5,722,074).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is (571) 272-3164. The examiner can normally be reached on 7:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2666

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Frank Duong', with a stylized, cursive script.

Frank Duong
Examiner
Art Unit 2666

November 22, 2004